In the claims:

1. (Withdrawn) A drop generator, comprising:

a substrate having a heat transducer carried on an upper surface of the substrate, the heat transducer being a substantially planar member having an area;

an orifice member attached to the substrate and having an outer surface through which is formed an orifice, the orifice member defining a chamber that is adjacent to the heat transducer and is in fluid communication with the orifice and with an inlet in the substrate for conducting liquid through the inlet and into the chamber;

wherein a chamber thickness is a dimension extending from the upper surface to the outer surface; and

wherein a ratio of the chamber thickness to the square root of the transducer area is less than about 0.75.

2. (Withdrawn) The drop generator of claim 1 wherein the ratio is less than 0.50.

3. (Withdrawn) The drop generator of claim 1 wherein the ratio is about 0.35.

4. (Withdrawn) The drop generator of claim 1 wherein the orifice member has at least two orifices extending from the chamber to open through the outer surface of the orifice member thereby to permit liquid to be propelled through the orifices from the chamber.

5. (Withdrawn) The drop generator of claim 4 wherein the heat transducer in the chamber is a unitary member.

6. (Withdrawn) A method of using the drop generator comprising the steps of: providing a substrate having a heat transducer carried on an upper surface of the substrate, the heat transducer having an area;

providing an orifice member attached to the substrate and having an outer surface through which is formed an orifice, the orifice member defining a chamber that is adjacent to the heat transducer and is in fluid communication with the orifice and with an inlet for conducting liquid through the inlet and into the chamber, wherein a chamber thickness is a dimension extending from the upper surface to the outer surface and wherein a ratio of the chamber thickness to the square root of the transducer area is less than about 0.75; and

instantaneously heating the heat transducer in the chamber by an amount sufficient to propel substantially all of the liquid from the chamber through the orifice in the form of more than one droplet of liquid.

7. (Original) A method of generating droplets , comprising the steps of:

providing a supply of liquid;

filling chambers with some of the liquid; and

instantaneously heating the liquid in the chambers by an amount sufficient to produce a vapor bubble in each chamber for propelling from each chamber droplets of the liquid wherein each droplet has a volume of less than 100 femtoliters.

8. (Original) The method of claim 7 including the step of propelling the liquid from each chamber as a substantially single volume that separates into two or more droplets.

9. (Original) The method of claim 8 including the step of instantaneously heating the liquid so that the liquid in the chamber is propelled with a single instance of heating the liquid.

10. (Original) The method of claim 8 further comprising the step of providing an orifice member that has at least two orifices extending from the chamber to permit liquid to be propelled through the orifices from the chamber.

11. (Original) The method of claim 8 further comprising the step of providing a single orifice through which substantially all of the liquid in the chamber is propelled.

12. (Original) The method of claim 11 further comprising the steps of:

providing a heat transducer in each chamber; and sizing the heat transducer relative to the chamber such that the liquid that is propelled from the chamber separates to form the droplets.

13. (Original) The method of claim 12 wherein the propelling step includes propelling the droplets along separate trajectories.

14. (Original) The method of claim 12 wherein the propelling step includes propelling the droplets along separate, diverging trajectories.

15. (Original) A method of generating droplets, comprising the steps of:

providing a supply of liquid;

filling chambers with some of the liquid; and

instantaneously heating the liquid in the chambers by an amount sufficient to produce a vapor bubble in each chamber that propels the liquid from the chamber through an orifice, wherein the propelled liquid separates into two or more droplets upon exiting the orifice.

16. (Original) The method of claim 15 including the step of configuring each chamber so that each droplet has a volume of less than 100 femtoliters.

17. (Original) An inhaler, comprising:

a body including a mouthpiece;

a supply of liquid carried in the body;

a drop generator head mounted to the body in fluid communication with the liquid and having a plurality of chambers therein, each chamber receiving some of the liquid and opening to surrounding air; and

a plurality of heat transducers, one heat transducer residing in each chamber and controllable for instantaneously heating the liquid in the chamber by an amount sufficient to produce a vapor bubble in the chamber for propelling the liquid from the chamber in the form of droplets, each droplet having a volume of less than 100 femtoliters, thereby to facilitate aerosol delivery of the droplets to the alveoli of a user of the mouthpiece.

18. (Original) The inhaler of claim 17 wherein each heat transducer has an area and is mounted adjacent to an upper surface in the chamber, and the drop generator includes an orifice opening through an outer surface of the drop generator head, and wherein the distance between the upper surface of the chamber and the outer surface is less than 0.75 times the square root of the heat transducer residing in that chamber.

19. (Original) An inhaler, comprising:

a body;

a supply of medicinal liquid carried in the body;

a drop generator head mounted to the body in fluid communication with the medicinal liquid and having a plurality of chambers therein, each chamber receiving some of the medicinal liquid and each chamber having an orifice; and

a plurality of heat transducers, one heat transducer being associated with each chamber and controlled for instantaneously heating the medicinal liquid in the chamber by an amount sufficient to produce a vapor bubble in the chamber for propelling medicinal liquid though the orifice with force sufficient for separating the propelled liquid into two or more droplets for inhalation by a user.

20. (Original) The inhaler of claim 19 wherein the liquid propelled from a single chamber is directed through a single orifice to separate into two or more discrete droplets traveling in different trajectories.

21. (Original) The inhaler of claim 19 wherein the liquid propelled from a single chamber is directed through at least two orifices that separate the liquid into two or more discrete droplets.

22. (Original) The inhaler of claim 19 further comprising a mouthpiece connected to the body and within which the droplets are introduced for inhalation by a user.

23. (Original) The inhaler of claim 19 further comprising a recess mechanism for directing gas to the propelled droplets thereby to entrain the droplets in the gas.